



PATENT  
Docket No. SPLX.P0126

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Mani Adeli

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of:

Steven Teig

Serial No.: 10/079,061

Filing Date: 2/20/02

For: METHOD AND APPARATUS FOR  
PRE-COMPUTING PLACEMENT  
COSTS

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**INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97**

Commissioner for Patents  
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Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit with this Information Disclosure Statement the attached Form PTO-1449, and copies of the documents listed in the 1449 form for consideration by the Examiner. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

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Based on PTO/SB/21 (05-03)

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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number 10/079,061

Filing Date 2/20/02

First Named Inventor Steven Teig

Group Art Unit 2825

Examiner Name

Total Number of Pages in This Submission

Attorney Docket Number SPLX.P0126

### Enclosures (Check all that apply)

☐ Fee Transmittal Form

☐ Fee Attached

☐ Amendment/Reply

☐ After Final

☐ Affidavits/declarations(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☒ Information Disclosure Statement

☐ Certified Copy of Priority Documents

☐ Response to Missing Parts/Incomplete Application

☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Assignment Papers (for an application)

☐ Drawing(s)

☐ Licensing-related Papers

☐ Petition

☐ Petition to Convert to a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

☐ Terminal Disclaimer

☐ Request for Refund

☐ CD, Number of CD(s) \_\_\_\_\_

☐ After Allowance Communication to Group

☐ Appeal Communication to Board of Appeals and Interferences

☐ Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)

☐ Proprietary Information

☐ Status Letter

☒ Other Enclosures (Listed below):

Postcard  
Form 1449  
88 cited references

Remarks:

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Or Individual name

Mani Adeli, Reg. No. 39,585 of Stattler Johansen & Adeli LLP

Signature

Date

November 13, 2003

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This Information Disclosure Statement is submitted within three months of the application filing date or before the mailing date of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

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Dated: November 13, 2003

Respectfully submitted,

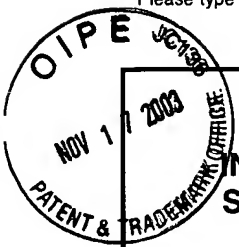
By: \_\_\_\_\_

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				Applicant Number	10/079,061
				Filing Date	2/20/02
				First Named Inventor	Steven Teig
				Group Art Unit	2825
				Examiner Name	
Sheet	1	of	7	Attorney Docket Number	SPLX.P0126

**U.S. PATENT DOCUMENTS**

Examiner* Initials	Cite No. <sup>1</sup>	U.S. Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	1.	2001/0009 031	A1	07-19-2001	Nitta et al.	
	2.	2002/0182 844	A1	12-05-2002	Igarashi et al.	
	3.	2003/0025 205	A1	02-06-2003	Shively	
	4.	2003/0005 399	A1	01-02-2003	Igarashi et al.	
	5.	4,593,363		06-03-1986	Burstein et al.	
	6.	4,855,929		08-08-1989	Nakajima	
	7.	5,267,176		11-30-1993	Antreich et al.	
	8.	5,375,069		12-20-1994	Satoh et al.	
	9.	5,587,923		12-24-1996	Wang	
	10.	5,618,744		04-08-1997	Suzuki et al.	
	11.	5,633,479		05-27-1997	Hirano	
	12.	5,637,920		06-10-1997	Loo	
	13.	5,640,327		06-17-1997	Ting	
	14.	5,663,891		09-02-1997	Bamji et al.	
	15.	5,757,089		05-26-1998	Ishizuka	
	16.	5,784,289		07-28-1998	Wang	
	17.	5,798,936		08-25-1998	Cheng	
	18.	5,838,583		11-1998	Varadarajan et al.	
	19.	5,889,677		03-30-1999	Yasuda et al.	
	20.	5,980,093		11-09-1999	Jones et al.	

Examiner Signature		Date Considered	
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number(optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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				<b>Filing Date</b>	2/20/02
				<b>First Named Inv nt r</b>	Steven Teig
				<b>Group Art Unit</b>	2825
				<b>Examiner Name</b>	
<b>Sheet</b>	2	of	7	<b>Attorney Docket Number</b>	SPLX.P0126

U.S. PATENT DOCUMENTS						
	21.	6,070,108		05-30-2000	Andreev et al.	
	22.	6,128,767		10-03-2000	Chapman	
	23.	6,209,123	B1	03-27-2001	Maziasz et al.	
	24.	6,253,363	B1	06-26-2001	Gasarov et al.	
	25.	6,295,634	B1	09-25-2001	Matsumoto	
	26.	6,324,674	B2	11-27-2001	Andreev et al.	
	27.	6,324,675	B1	11-27-2001	Dutta et al.	
	28.	6,327,693	B1	12-04-2001	Cheng et al.	
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	30.	6,330,707		12-11-2001	Shinomiya et al.	
	31.	6,378,121	B1	04-23-2002	Hiraga	
	32.	6,407,434	B1	06-18-2002	Rostoker et al.	
	33.	6,412,102	B1	06-25-2002	Andreev et al.	
	34.	6,415,422	B1	07-02-2002	Mehrotra et al.	
	35.	6,442,743	B1	08-27-2002	Sarrafzadeh et al.	
	36.	6,448,591	B1	09-10-2002	Juengling	
	37.	6,473,891	B1	10-29-2002	Shively	
	38.	6,480,991	B1	11-12-2002	Cho et al.	
	39.	6,490,713	B2	12-03-2002	Matsumoto	
	40.	6,519,751	B2	02-11-2003	Sriram et al.	
	41.	6,543,043	B1	04-01-2003	Wang et al.	
	42.	6,546,540	B1	04-08-2003	Igarashi et al.	
	43.	6,557,145	B2	04-29-2003	Boyle et al.	

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				<b>Group Art Unit</b>	2825
				<b>Examiner Name</b>	
<b>Sheet</b>	3	of	7	<b>Attorney Docket Number</b>	SPLX.P0126

U.S. PATENT DOCUMENTS					
	44.	6,567,967	B2	05-20-2003	Greidinger et al.

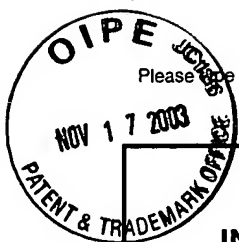
FOREIGN PATENT DOCUMENTS								
Examiner* Initials	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code (if known)				
	45.	JP	411296560	A	Matsumoto et al.	10-29-1999	with English translation of Abstract;	
	46.	JP	2000-82743	A	Igarashi et al.	03-21-2000	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	47.	JP	H03-173471	A	Tawada et al.	07-26-1991	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	48.	JP	H05-243379	A	Masako Kubota	09-21-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	49.	JP	H05-102305	A	Akihiro Sato	04-23-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓

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<b>Sheet</b>	4	<b>of</b>	7	<b>Attorney Docket Number</b>	SPLX.P0126

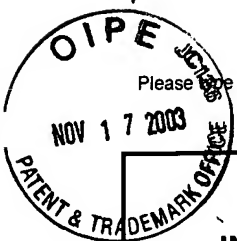
FOREIGN PATENT DOCUMENTS							
50.	JP	H07-86407	A	Shinpei Miura	03-31-1995	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√
51.	JP	H09-162279	A	Masaaki Yoshida	06-20-1997	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√

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				<b>First Named Inventor</b>	Steven Teig
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				<b>Examiner Name</b>	
<b>Sheet</b>	5	<b>of</b>	7	<b>Attorney Docket Number</b>	SPLX.P0126

<b>FOREIGN PATENT DOCUMENTS</b>					
<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner* Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T 6
/	52.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.			
/	53.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp. 956-931.			
/	54.	Brambilla, A. et al., Statistical Method for the Analysis of Interconnects Delay in Submicrometer Layouts, IEEE, 8/2001, pp. 957-966.			
/	55.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.			
/	56.	Chen, H. et al., Physical Planning of On-Chip Interconnect Architectures, 2002, IEEE, International Conference, pp. 30-35.			
/	57.	Cheng, K. et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures, pp 47-52, 2000.			
/	58.	Cheng, K., Steiner Problem in Octilinear Routing Model, a Thesis Submitted for the Degree of Master of Science, National University Singapore, 1995, pp. 1-122.			
/	59.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, iss. 3A, pp. 929-933.			
/	60.	Cong, J. et al., Efficient Heuristics for the Minimum Shortest Path Steiner Arborization Problem with Applications to VLSI Physical Design, Cadence Design Systems and UCLA Computer Science Department, pp.88-95.			
/	61.	Cong, J. et al., Performance-Driven Multi-Layer General Routing for PCB/MCM Designs, UCLA Computer Science Department, 1998, pp. 356-361.			
/	62.	Enbody, R. et al., Near-Optimal n-Layer Channel Routing, 23 <sup>rd</sup> Design Automation Conference, 1986, pp. 708-714.			
/	63.	Fang, S. et al., Constrained Via Minimization with Practical Considerations for Multi-Layer VLSI/PCB Routing Problems, 28 <sup>th</sup> ACM/IEEE Design Automation Conference, 1991, pp. 60-65.			
/	64.	Hom, I. et al., Estimation of the Number of Routing Layers and Total Wirelength in a PCB Through Wiring Distribution Analysis, 1996, pp. 1-6.			

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				<b>Filing Date</b>	2/20/02
				<b>First Named Inventor</b>	Steven Teig
				<b>Group Art Unit</b>	2825
				<b>Examiner Name</b>	
<b>Sheet</b>	6	of	7	<b>Attorney Docket Number</b>	SPLX.P0126

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<input checked="" type="checkbox"/>	65.	Hong, X. et al., Performance-Driven Steiner Tree Algorithms for Global Routing, 30 <sup>th</sup> ACM/IEEE Design Automation Conference, 1993, pp. 177-181.
<input checked="" type="checkbox"/>	66.	Hu, J et al.: "A Timing-Constrained algorithm for Simultaneous Global Routing of Multiple Nets" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA USA, 5-9 Nov. 2000. Pages 99-103.
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<b>Examiner Signature</b>		<b>Date Considered</b>	
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